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10/779,392	02/13/2004	Klaus Beck	91535	9012
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WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606			MARTINEZ, JOSEPH P	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/779,392	Applicant(s) BECK ET AL	
	Examiner Joseph P. Martinez	Art Unit 2873	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,4-41 and 43-65 is/are pending in the application.
 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 22-39, 62 and 63 is/are allowed.
- 6) ☒ Claim(s) 1,2,4,8-16,18,20,21,40,41,43,48-56,58,60,64 and 65 is/are rejected.
- 7) ☒ Claim(s) 5-7,17,19,44-47,57,59 and 61 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>1-10-05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Allowable Subject Matter

The indicated allowability of claims 3 (which has subsequently been incorporated into claim 1 and cancelled), 6, 18, 20, 42 (which has subsequently been incorporated into claim 40 and cancelled), 43, 46, 58 and 60 is withdrawn in view of the newly discovered reference(s) to Schletterer (6525888). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

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Claims 1, 2, 4, 6, 8, 18, 20, 21, 40, 41, 43, 46, 48, 58, 60, 64 and 65 rejected under 35 U.S.C. 102(e) as being fully anticipated by Schletterer (6525888).

Re claim 1, Schletterer teaches for example in fig. 1-3, an adjustment arrangement of an optical element, in particular of a lens (3) in an optical system, the optical element having a circumference (outer portion of 3) and being mounted in a mount (1) by a plurality of bearing feet (6) arranged in a distributed manner over the circumference of the optical element (fig. 2), said bearing feet being formed in an L-shaped manner (fig. 3), the one leg of the bearing foot being connected at its free end to the mount (col. 5, ln. 5-7), and a bearing surface (6a) for the optical element being arranged in the region of the free end of the other leg, the optical element being selectively deformable (col. 5, ln. 18-25) by actuators (2), and at least some of the bearing feet being engaged (col. 5, ln. 18-25) by at least one actuator (2) in such a way that the respective bearing foot can be displaced (col. 5, ln. 18-25) in a direction substantially orthogonal to said circumference (col. 5, ln. 18-25, wherein the office interprets the force on the bead to be orthogonal to the circumference).

Re claim 40, Schletterer teaches for example in fig. 1-3, a projection lens system in semiconductor lithography (col. 1, ln. 17-20, wherein the office interprets a lens system which requires precise optical mounting to include a projection lens system in semiconductor lithography) with a plurality of optical

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elements (col. 1, ln. 41-42) and with at least one optical element being mounted in a mount (1) by a plurality of bearing feet (6) arranged in a distributed manner over the circumference of the optical element (fig. 2), said bearing feet being formed in an L-shaped manner (fig. 3, 5th element), the one leg of the bearing foot being connected at its free end to the mount (col. 5, ln. 5-7), and a bearing surface (6a) for the optical element being arranged in the region of the free end of the other leg, the optical element being selectively deformable (col. 5, ln. 18-25) by actuators (2), and at least some of the bearing feet being engaged (col. 5, ln. 18-25) by at least one actuator (2) in such a way that the respective bearing foot can be displaced (col. 5, ln. 18-25) in a direction substantially orthogonal to said circumference (col. 5, ln. 18-25, wherein the office interprets the force on the bead to be orthogonal to the circumference).

Re claim 64, Schletterer teaches for example in fig. 1-3, an adjustment arrangement of an optical element, in particular of a lens (3) in an optical system, the optical element having a circumference (outer portion of 3) and being mounted in a mount (1) by a plurality of bearing feet (6) arranged in a distributed manner over the circumference of the optical element (fig. 2), the optical element being selectively deformable by actuators (col. 5, ln. 18-25), and at least some of the bearing feet being engaged (col. 5, ln. 18-25) by at least one actuator (2) in such a way that the respective bearing foot can be displaced (col. 5, ln. 18-25) in a direction substantially orthogonal to said circumference (col. 5, ln. 18-25, wherein the office interprets the force on the bead to be orthogonal to the

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circumference), each of the bearing feet (6) engaged by one of the actuators (2) has a lever element (fig. 3, 5th element) running in a direction parallel to the optical axis, a bearing surface (6a) for the optical element (3) and each of the bearing feet (6) engaged by one of the actuators (2) is formed in a U-shaped manner (fig. 1), the one leg of the bearing foot being connected to the mount (1), and the other leg being connected to the region of the bearing surface (6a) via the at least one joint, and the actuator engaging in the region facing a base of the U-shaped bearing foot (wherein the office interprets the portion of leaf spring 6 in contact with the set screw to be facing the base of the U-shaped bearing foot), so that the bearing surface can be displaced in the direction of the optical axis (col. 5, ln. 18-25).

Re claim 65, Schletterer teaches for example in fig. 1-3, a projection lens system in semiconductor lithography (col. 1, ln. 17-20, wherein the office interprets a lens system which requires precise optical mounting to include a projection lens system in semiconductor lithography) with a plurality of optical elements (col. 1, ln. 41-42) and with at least one optical element being mounted in a mount (1) by a plurality of bearing feet (6) arranged in a distributed manner over the circumference of the optical element (fig. 2), the optical element being selectively deformable by actuators (col. 5, ln. 18-25), and at least some of the bearing feet being engaged (col. 5, ln. 18-25) by at least one actuator (2) in such a way that the respective bearing foot can be displaced (col. 5, ln. 18-25) in a direction substantially orthogonal to said circumference (col. 5, ln. 18-25, wherein

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the office interprets the force on the bead to be orthogonal to the circumference), each of the bearing feet (6) engaged by one of the actuators (2) is formed in a U-shaped manner (fig. 1), the one leg of the bearing foot being connected to the mount (1), and the other leg being connected to the region of the bearing surface (6a) via the at least one joint, and the actuator engaging in the region facing a base of the U-shaped bearing foot (wherein the office interprets the portion of leaf spring 6 in contact with the set screw to be facing the base of the U-shaped bearing foot).

Re claim 2, Schletterer further teaches for example in fig. 1-3, a force which runs parallel to the direction of the optical axis can be applied to the respective bearing foot by the actuators (col. 5, ln. 21-25)

Re claims 4 and 43, Schletterer further teaches for example in fig. 1-3, each of the bearing feet (6) engaged by one of the actuators (2) has a lever element (fig. 3, 5th element) running in a direction parallel to the optical axis, a bearing surface (6a) for the optical element (3) and at least one pivot point, the actuator engaging in the region (fig. 1) of the lever element in such a way that the bearing surface can be displaced in the direction of the optical axis (col. 5, ln. 18-25).

Re claims 6 and 46, Schletterer further teaches for example in fig. 1 and 3, each of the bearing feet (6) engaged by one of the actuators (2) is formed in a U-

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shaped manner (fig. 1), the one leg of the bearing foot being connected to the mount (1), and the other leg being connected to the region of the bearing surface (6a) via the at least one joint, and the actuator engaging in the region facing a base of the U-shaped bearing foot (wherein the office interprets the portion of leaf spring 6 in contact with the set screw to be facing the base of the U-shaped bearing foot).

Re claims 8 and 48, Schletterer further teaches for example in fig. 1-3, the force exerted by the actuators (2) on the respective bearing feet (6) acts on the respective region of the bearing foot in a direction perpendicular (col. 5, ln. ln. 18-25) to the optical axis.

Re claims 18, 20, 58 and 60, Schletterer further teaches for example in fig. 2, bearing feet which are engaged by one of the actuators are respectively arranged at specific angles around the optical element, the other bearing feet being formed as fixed bearing feet or are arranged in relation to one another at an angle of 90 degrees in each case (wherein the office interprets the leaf springs in contact with the setscrew to teach the claimed limitation).

Re claims 21 and 41, Schletterer further teaches for example in fig. 1 and 2, a lens (3) is provided as the optical element.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-16 and 49-56 rejected under 35 U.S.C. 103(a) as being unpatentable over Schletterer (6525888).

Re claims 9-16 and 49-56, Schletterer further teaches for example, the actuators are formed as passively adjustable actuating means (2, wherein the office interprets a setscrew to be capable of performing as a passively adjustable actuating means or an active actuator, depending on the placement of the actuator, as is well known in the art), an actuating screw (2), active actuators (2, wherein the office interprets a setscrew to be capable of performing as a passively adjustable actuating means or an active actuator, depending on the placement of the actuator, as is well known in the art).

But, Schletterer fails to explicitly teach the actuators act on the respective bearing foot via gear elements, motor drives, piezo elements or pneumatic or hydraulic actuators.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide different types of actuators, since setscrews for adjustments and various actuators are known equivalents in the art

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and the selection of any of these known equivalents would be within the level of ordinary skill in the art.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Schletterer to teach the actuators act on the respective bearing foot via gear elements, motor drives, piezo elements or pneumatic or hydraulic actuators in order to provide ease of adjustment.

Allowable Subject Matter

Claims 22-39, 62 and 63 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in independent claim 22.

Specifically regarding claim 22, Schletterer teaches the state of the art of a projection lens system.

But, Schletterer fails to explicitly teach one end of a lever element being arranged between the two solid joints, one of said solid joints connecting the lever element to the mount and the other solid joint connecting the lever element to a region of the optical element, and the actuator engaging an end of the lever element remote from the solid joints, as claimed.

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Specifically regarding claims 62 and 63, Schletterer teaches the state of the art of a projection lens system.

But, Schletterer fails to explicitly teach alternate ones of the bearing feet being engaged by at least one actuator, as claimed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 5-7, 17, 19, 44-47, 57, 59 and 61 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art taken alone or in combination fails to anticipate or fairly suggest the limitations of the claims, in such a manner that a rejection under 35 USC 102 or 103 would be proper. The prior art fails to teach a combination of all the claimed features as presented in dependent claims 5, 6, 17, 19, 44, 46, 57 and 59.

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Specifically regarding claims 5 and 44, Schletterer teaches the state of the art of an adjustment arrangement of an optical system.

But, Schletterer fails to explicitly teach one end of a lever element being arranged between the two solid joints, one of said solid joints connecting the lever element to the mount and the other solid joint connecting the lever element to a region of the optical element, and the actuator engaging an end of the lever element remote from the solid joints, as claimed.

Specifically regarding claims 17 and 57, Schletterer teaches the state of the art of an adjustment arrangement of an optical system.

But, Schletterer fails to explicitly teach fixed bearing feet and bearing feet respectively engaged by one of the actuators are arranged alternately, as claimed.

Specifically regarding claims 19 and 59, Schletterer teaches the state of the art of an adjustment arrangement of an optical system.

But, Schletterer fails to explicitly teach fixed bearing feet and bearing feet respectively engaged by one of the actuators are arranged in relation to one another at an angle of 120 degrees, as claimed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph P. Martinez whose telephone number

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is 571-272-2335. The examiner can normally be reached on M-F 7:00 AM to 3:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Y. Epps can be reached on 571-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
6-11-05


Hung Xuan Dang
Primary Examiner